

Preliminary Amendment

Applicant: Rupert Glaser

Serial No.: Unknown

(Priority Application No. DE 103 44 285.5)

(International Application No. PCT/DE2004/002059)

Filed: Herewith

(Priority Date: 24 September 2003)

(International Filing Date: 15 September 2004)

Docket No.: I432.131.101/P32351

Title: PROCESSOR ARRAY, FABRIC STRUCTURE, SURFACE-COVERING STRUCTURE AND
METHOD OF TRANSMITTING ELECTRICITY (As Amended)

IN THE CLAIMS

Please cancel claims 1-19 without prejudice.

Please add claims 20-39 as follows:

~~Patent Claims~~ WHAT IS CLAIMED IS:

1-19. (Cancelled)

20. (New) A processor array comprising:

a multiplicity of processor elements, each processor element comprising:

at least one processor;

a plurality of power supply interfaces for transmitting electricity from and to a plurality of processor elements adjacent to the respective processor element;

a plurality of power supply switches, each power supply interface being assigned a power supply switch, with which electricity can be supplied or not supplied to the respective power supply interface as desired;

testing means for sequentially testing whether there is an electrical short-circuit at a power supply interface to a coupled adjacent processor element;

control means for closing the respective power supply switch so that electricity can be supplied to the power supply interface when there is no short-circuit on the power supply interface; and

wherein at least to some extent, only the processor elements that are arranged locally directly adjacent to one another are coupled to one another in order to exchange electronic messages and to transmit electricity.

21. (New) The processor array of claim 20, wherein at least some of the processor elements have a sensor or an actuator that is coupled to the processor, and wherein sensor

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data or actuator data is transmitted in the electronic messages between the processor elements arranged adjacent to one another.

22. (New) The processor array of claim 20, wherein the testing means further comprises at least one short-circuit testing unit that has a current limiting device.

23. (New) The processor array of claim 22, wherein each power supply switch is assigned a current limiting device.

24. (New) The processor array of claim 23, wherein at least part of the power supply switch is set up as a current-limited switch.

25. (New) The processor array of claim 20, wherein the processor elements are arranged in matrix form in rows and columns.

26. (New) The processor array of claim 20, further comprising at least one interface processor that provides a message interface of the processor array.

27. (New) The processor array of claim 21, wherein sensor data or actuator data is transmitted in the electronic messages from and to the interface processor.

28. (New) A fabric structure comprising:

a processor array having a multiplicity of processor elements, each processor element comprising:

at least one processor;

a plurality of power supply interfaces for transmitting electricity from and to a plurality of processor elements adjacent to the respective processor element;

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a plurality of power supply switches, each power supply interface being assigned a power supply switch, with which electricity can be supplied or not supplied to the respective power supply interface as desired;

testing means for sequentially testing whether there is an electrical short-circuit at a power supply interface to a coupled adjacent processor element;

control means for closing the respective power supply switch so that electricity can be supplied to the power supply interface when there is no short-circuit on the power supply interface; and

wherein the processors, sensors, or actuators are arranged in the fabric structure;

electrically conductive filaments that couple the processors to one another;

conductive data transmission filaments that couple the processors to one another; and

electrically nonconductive filaments.

29. (New) The fabric structure of claim 28, wherein the electrically conductive filaments are configured to be used for the power supply to the plurality of processors, sensors, or actuators.

30. (New) The fabric structure of claim 28, wherein the conductive data transmission filaments are electrically conductive.

31. (New) The fabric structure of claim 28, wherein the conductive data transmission filaments are optically conductive.

32. (New) The fabric structure of claim 28, wherein the actuator is set up as at least one of the following elements:

an image-generating element;

a sound wave generating element; and

a vibration-generating element.

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33. (New) The fabric structure of claim 28, wherein a surface covering is fixed on the fabric structure.

34. (New) The fabric structure of claim 33, wherein the surface covering is adhesively bonded, laminated, or vulcanized on the fabric structure.

35. (New) The fabric structure of claim 33, wherein the surface covering is formed as one of a wall-covering structure, a floor-covering structure and a ceiling-covering structure.

36. (New) The fabric structure of claim 33, wherein a textile layer interspersed uniformly with electrically conductive wires is applied at least over subregions of the fabric structure.

37. (New) A processor element, comprising:

at least one processor;

a plurality of power supply interfaces for transmitting electricity from and to a plurality of processor elements adjacent to the respective processor element;

a plurality of power supply switches, each power supply interface being assigned a power supply switch, with which electricity can be supplied or not supplied to the respective power supply interface;

at least one short-circuit testing unit for sequentially testing whether there is an electrical short-circuit at a power supply interface to a coupled adjacent processor element;
and

a control unit configured such that the respective power supply switch closes so that electricity can be supplied to the power supply interface when there is no short-circuit on the power supply interface,.

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38. (New) A method for transmitting electricity between a multiplicity of processor elements arranged locally adjacent to one another, each processor element comprising:

at least one processor;

a plurality of power supply interfaces for transmitting electricity from and to a plurality of processor elements adjacent to the respective processor element;

a plurality of power supply switches, each power supply interface being assigned a power supply switch, with which electricity can be supplied or not supplied to the respective power supply interface as desired;

at least to some extent, only the processor elements arranged locally directly adjacent to one another being coupled to one another to exchange electronic messages and to transmit electricity, sensor data and/or actuator data being transmitted in electronic messages between the processor elements;

the method comprising checking at a power supply interface as to whether there is an electric short-circuit to coupled adjacent processor element.

39. (New) The method of claim 38, further comprising closing the respective power supply switch so that electricity can be supplied to the power supply interface when there is no short-circuit at the power supply interface.